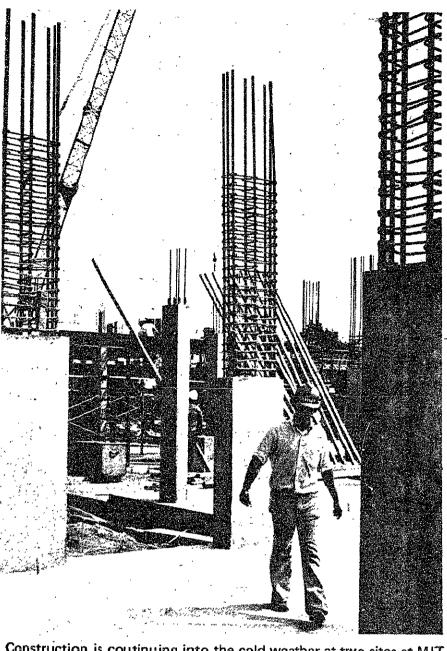
VOLUME 94, NUMBER 41

MIT, CAMBRIDGE, MASSACHUSETTS

TUESDAY, OCTOBER 22, 1974

FIVE CENTS



Construction is coutinuing into the cold weather at two sites at MIT - the new West Campus dorm (shown above) and the Chemical Engineering building at the other end of campus - as workers try to complete exterior work before winter. Photo by Tom Klimowicz

Engineering school cuts due

v Mike McNamee

An internal review of the operations of the School of Engineering, with an eye to improving the School's efficiency and making long-term cuts in its budget, has been started in the last month.

A series of "task forces," composed of Engineering faculty with staff assistance provided by the School, are studying operations in a variety of areas under the direction of Engineering Dean Alfred A.H. Keil and Associate Dean James D. Bruce.

Similar reviews are being considered in the Schools of Science and Architecture and Planning.

The review, which will cost the school about \$50,000, was prompted by concern among the Engineering faculty for the implications of the fiscal 1976 budget, which is currently being prepared by the MIT administration, Bruce said. That budget (see story, this page) is expected to follow the last several Institute budgets, involving a cut in academic spending of about \$2 million.

Keil and Bruce, after discussing the budget with several members of the Engineering faculty, wrote a letter to Chancellor Paul E. Gray '54. They told Gray, who has over-all control over budget-preparation, that "year-by-year cuts will not work."

"We could go on, year after year, cutting \$2 million out of our budgets each year," Bruce said, "but eventually there would be nothing left to cut. Each year we would come closer and closer to zero."

In an attempt to understand the basic issues behind the budget problems, Gray briefed the Engineering faculty about two weeks ago on the overall budget

situation. The Chancellor discussed the Institute's finances from Fiscal Year 1963 until FY 1974, Bruce said.

Keil then decided to form 19 task forces, each assigned to a particular area of the school's operations, to review the budgets in each area. These forces, chaired by engineering faculty and composed of other faculty

(Please turn to page 3)

News Analysis 'Cuts' describe budget for last several years

By Mike McNamee

If any one word were to be chosen to characterize trends in the MIT budget over the last' several years, that word would have to be "cuts."

Inflation, rising costs, a de-

crease in the amount of money that can be expected from students through tuition, and some large-scale changes in the

Institute's financial picture such as the divestment last year of the Draper Laboratories, formerly a wholly-owned Institute subsidiary - have given MIT operating deficits in the last several years.

Although the deficits have provoked some useful innovations around MIT - such as the thorough review being made of (Please turn to page 2)



Retiring Institute Professor Victor Weisskopf was honored last week at a 2-day symposium held at MIT. Photo by Tom Klimowicz

Computer for architects funded

By Lucy Everett

The expert designing your dream house may someday be a computer, if work funded by a recent \$600,000 National Science Foundation grant to Professor Nicholas Negroponte '66' and the "Architecture Machine" group succeeds.

The goals of the project, as proposed by Negroponte, are "to augment design abilities, to recognize design intentions, and to generate design solutions in a fashion that affords people the opportunity to be as inventive and creative as possible."

Staff members, including graduate students and participants in the Undergraduate Research Opportunities Program and the Government Work Study Program, as well as students in Negroponte's "Geometry and Computation in Architecture," are working toward the expansion of channels of communications between computers and humans.

Present devices used in the "Architecture Machine" laboratory allow the computer to

accept and react to sketches done on a special tablet. The computer reads the drawing by observing the position of the pen at fixed time intervals, and uses, among other parameters, speed and pressure to determine special features such as corners.

Research in graphical input may also allow the machine to interpret a person's intentions in drawing. Future programs may consider the user's hand and eye movements, as well as his approach to the sketch, as indicative of his attitude toward certain features of the drawing.

A long-range goal of the project is the application of these techniques to the development of "Architecture by Yourself." Programs in this area allow the user to input information regarding size and proximity requirements for various rooms and have the computer generate possible floor plans. The computer may ask questions concerning-desired features as guidelines for the user.

While the idea of computeraided design "demands that the



Using the Architecture Department's computer facility - the Architecture Machine - are Han Wah Chin (left), and system operator Mike Miller. Photo by Rich Reihl

computer behave in a presently atypical manner," Negroponte is optimistic about the feasibility of such schemes. In his book, Limits to the Embodiment of Basic Design Theories, he expresses the hope that machines can be made "sensitive to and understanding of the individual needs of a person designing his own home, presumably in a high density, conceivably in a low income, physical, and cultural level."

Negroponte's work in computer applications to architecture dates to the URBANS project, funded in 1966 by IBM. His publication of The Architecture Machine and the development of the laboratory at MIT were a reaction to the more "vulnerable" aspects of the early system.

Unlike the URBANS project, which utilized an extremely large computer system, the present "Architecture Machine" consists of "a family of small machines which share a large number of interesting peripheral devices," said Negroponte. This system is more efficient as it features increased flexibility at lower equipment cost.

Negroponte estimates that about 25% of the group's effort is geared toward system growth and development. The remaining time is divided between instruction on both graduate and undergraduate levels, and research.

The National Science Foundation grant is important, Negroponte said, because "this is the first time we've had stability over a three-year period." He noted that the grant will basically be used to develop machines that can eliminate "incompleteness, contradiction and vagueness" in computer-generated design.

Weisskopf honored here Nobel winners take part

By Stephen Blatt

Six Nobel Laureates and many friends of Institute Professor Victor Weisskopf gathered at MIT last Thursday and Friday. to honor his retirement from the Physics Department.

The two day symposium featured eleven speakers and a preview of a new film on Albert Einstein's early education. The speeches ranged from reminiscences of graduate studies with "Vickie," as Weissopf is generally known, to lectures addressing public policy problems such as the energy crisis and the possible reinstatement of the President's Science Advisory Council, to technical lectures on nuclear theory.

The symposium was opened by James Killian, Honorary Chairman of the MIT Corporation, who called for the establishment of a Council of Science and Technology in the White House, as proposed by a National Academy of Science committee he headed last year. Killian stated that it is essential that the best scientific and technological talent of today be used to find new alternatives to solve the problems facing our nation.

According to Killian, the proposal to institute a Council of Science and Technology recieved "a cordial response in Congress and an extraordinary response from the press." He noted that

(Please turn to page 3)

Task Forces for Engineering Review

Data and Analysis

- Associate Dean James D. Bruce

2) Opportunities for the School of Engineering. - J. Herbert Holloman, Head CPA

Cost Reductions, Improvements

3) Alternatives to Engineering Degree Education. - Prof. Frank Perkins, I

4) Opportunites for Continuing Education - Prof. J. Frances Reintjes, VI

5) The School's Research Program

- Prof. Peter S. Eagleson, Head I. 6) Administrative Services for the School

- Prof. Joseph M. Sussman, I 7.) Alternatives for Technical Services

- Vice President Kenneth Wadleigh

8) Space Utilization

- Prof. James B. Melcher, VI 9) Financial Management Within the School - Prof. Robert D. Logcher, I

10) Personnel Policy, Salaries, Tenure, Etc.

- Prof. Joel Moses, VI 1) Who and What is the School of Engineering at 11) Cooperative Ventures with Other Institutions - Prof. Laurence R. Young, XVI

Income Improvements

12) Master's Degree Programs

- Prof. Jerome J. Connor Jr., I

-Rao

13) New Undergraduate Programs

14) Admission of More Transfer Students - Prof. Ernest Rabinowicz, II

15) New Research Opportunities

- Prof. I. Dyer, Head XIII 16) Continuing Education, Seminars, Special Pro-

17) New Programs for Foreign Students

18) New Utilization of Space and Facilities - Prof. David N. Wormley, II

19) Variable Charges for Services

- Prof. Raymond F. Baddour, Head X News Analysis MIT budget problems not new

(Continued from page 1) the MIT School of Engineering's operations this year (see story page 1), for the most part they have caused only headaches for the MIT administration.

It is difficult to pin down figures when dealing with MIT's budgetary crisis, since authorities even disagree on what a deficit is in MIT's case. Chancellor Paul E. Gray '54, who is responsible for most of the work involved in preparing the Institute's budget, prefers to speak of "a gap" which results in demand on MIT's unrestricted income tuition, endowment, and other forms of income which are not tied to a specific purpose.

Whatever it is called, the gap or deficit reached approximately \$8.6 million last year (Fiscal Year 1974), with a \$2.9 million cut in the academic budget included. That gap had to be met, with a resulting loss to the MIT. endowment of \$2.8 million.

The Institute has met most of its operating expense gaps by cutting away, a little at a time, at expenditures in a variety of areas. Economy has been a watchword, and while, there have been few gross cuts in budgets resulting in large-scale changes in academic programs, belts have been tightened all over MIT to hold down the deficit.

The administration has also tried to augment its economy moves by increasing the amount of unrestricted income coming into MIT. Aside from raising tuition, the best way to do that has been through raising the endowment by traditional fund-raising. While all colleges are always interested in fundraising, MIT has had a special stake in it during the last several vears, and has been making strong efforts to get more unrestricted funds to meet operating expenses.

The same economic effects that make MIT's budget harder to meet, however, also make it difficult to get funds from donors. One truism among development officials, as fund-raising experts are known, is that large donations play the largest role in determining the success or failure to a fund drive. Under the economic conditions prevalent recently, few donors willing to give sizable chunks of money - in the tens of millions of dollars - can be found. Thus for example, MIT is holding up on making any announcement - or even making any final plans - of a fund drive that has been discussed by the administration for more than six months now, while the Institute waits to see what happens to the American economy.

The problems faced by the Institute are similar to those

faced by a number of other colleges, including some of the largest and most prestigious private schools. Columbia University, for example, has suffered from much larger deficits than MIT for several years, and, according to the Columnbia Spectator, continues to face them.

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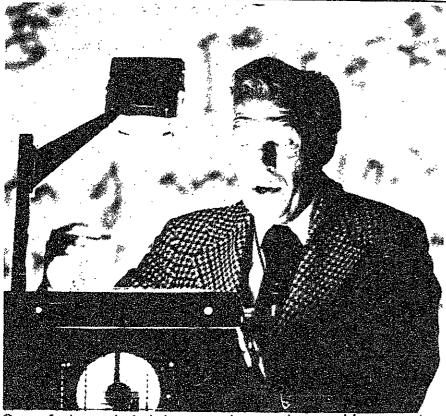
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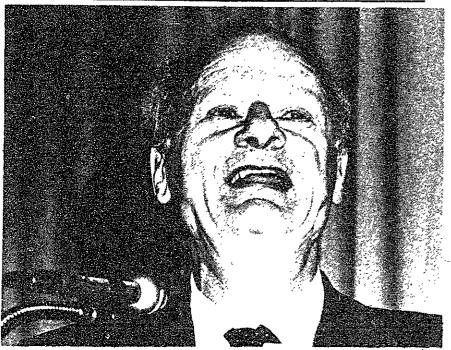


Photo by Tom Klimowicz

Nobel winners honor Weisskopf

(Continued from page 1). in a recent speech to the United Nations General Assembly, Secretary of State Henry Kissinger called science "our most precious" and "least nationalistic" resource.

Hans Bethe of Cornell University, 1967 winner of the Nobel Prize in Physics spoke on the energy problem: "In my opinion only one situation in this century was comparable to today's - the Second World War. In World War II, scientists, particularly at this Institute, came to the rescue to save the Western world. We must do it again."

In discussing the various sources of power available to us in this centruy, Bethe said, "We have no alternative whatsoever. We must use nuclear fission." Bethe believes that the existing safety problems are not insurmountable; they can be solved by technology.

In a speech entitled "Is Negotiated Arms Control Feasible?" Wolfgang Panofsky, director of the Stanford Linear Accelerator Center, debated the propriety of exempting "peaceful applications of nuclear weapons" from arms control agreements. Allowing nuclear fests for peaceful purposes, he said, is simply a loophole to allow military

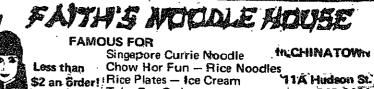
Panofsky called attention to what he felt were the dangers of arms control negotiations, stressing the fact that the negotiations had an accelerating effect on the arms race. For example, he said, a country involved in negotiations is likely to increase its nuclear stockpile to increase its power at the bargaining table, or to create weapons for use as "bargaining chips", only to destroy them

later.

The three options open to us in the area of arms control, according to Panofsky, are (1) to forget about arms control entirely, an option "which is clearly very dangerous," (2) to impose unilateral restraints, or (3) to continue mutual restraint and negotiated arms control.

David Hawkins of the University of Colorado, speaking on

the relationship of science to the layman, called for the reconstruction of science on an elementary level. This would give the layman a better understanding of "real" science, as opposed to "popularized". science. Hawkins stated that there are many important concepts in science which the layman accepts as being fact, but doesn't really understand.



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Hans Bethe, 1967 Nobel Prize winning physicist, spoke on the energy problem, saying that nuclear fission is man's only reasonable alternative.

Engineering review begun

(Continued from page 1) volunteers, are expected to report by the end of January, so a final report can be released by March 1, 1975.

"The faculty are the ones who must respond if any efforts to cut the budget are going to be made," Bruce said, "so we felt it was necessary to get the faculty as involved as possible in the review. We have asked any faculty member with ideas or the wish to work on this to serve, either by sitting on a task force or by submitting his ideas to the appropriate chairman."

Bruce said that about 20 to 25 per cent of the faculty of the School was involved in the review.

The task forces are dealing with three broad areas, Bruce said.

- Two groups are involved in gathering data on "where we are, and where we've been," and on external changes in engineering as they affect the school. Trends in research contracts, the numbers of faculty and students, and departmental characteristics will be considered by the internal task force, Bruce said.

The committee concerned with external changes will study some changes in the structuring of academic programs in the School as a result of the review. For example, many departments offer their own versions of some basic course in some areas. At the same time, Bruce pointed out, the median encollment in engineering courses is 12, far below the teaching capacity of the faculty teaching the courses. "We hope to eliminate some of these parallel courses, bringing them together, to use the faculty time more efficiently," Bruce

said.

One calculation shows that need for engineers, growth of US industry, and the types of engineers that will be needed in the

- Nine task forces are inolved in studying cost reductions and improvements - "how we do business," as Bruce said. They will study delivery and costs of engineering education, continuing education, research programs, and technical services, and will review space utilization, financial management, and personnel policy in the school.

- Eight groups are assigned to study income improvements, or "programs for which the income exceeds the marginal costs," according to a memo describing the review. Programs in this area include cooperative programs with industry, new

programs for graduate study, new research programs, and new programs for foreign students. Another important study in this area, Bruce said, was consideration of "the way our services are priced," including study of variable tuition, use of ; tuition based on the number of units taken by the student, and

charges for special programs. Bruce said he expected to see up to 15 per cent of the total faculty teaching time could be saved by such a move, according to Bruce - time that could be used for more teaching or research.

"Our purpose is to assume that anything could be changed. and then to look at the implications of changing it," Bruce said. "The School feels it has to look out for itself, and we want to review as much of this ourselves as we can."

In Case of Insomnia—

Quiz break, easing the crunch

By Storm Kauffman

The Institute rarely comes up with good ideas in the area of easing academic strain on students, and it is unfortunate when a simple and workable arrangement is allowed to disappear.

In my sophomore year, the Committee on Educational Policy suggested that on three days early in November (around election day) "there be no examinations or major assignments due." (The Tech, October 17, 1972) Observance of this recommendation was voluntary.

I had forgotten about this "academic breathing space," as then Chairman of the Faculty Hartley Rogers Jr. termed it. In the past year apparently everyone else has also forgotten about it.

The three days of eased academic load provided an opportunity for students to vote and follow the election. Of course. 1972 was a Presidential election year, but this year there are more students registered to vote in Massachusetts and such a break would enable them time to choose their candidates and vote for them.

Perhaps more important in that it affects a larger number of students is the time off from a little of the academic crush. We are now in the part of the term when quizzes and problem sets are coming fast and heavy, and the break would do everyone good.

As I remember, those of my instructors that did decide to go along merely moved the due date or quiz date a couple of days. Certainly, this is a small hardship, and I am not even suggesting that classes be cancelled for three days (as they were in 1970) or that faculty be required not quiz their classes (as was done for freshman in 1971).

Hopefully, the CEP still has time to suggest this quiz hiatus for November 4. 5, and 6.

In addition and at this time (while there is still sufficient time for the CEP to act), I would like to suggest that some quiz scheduling arrangement be made for the final week of the term. The recent trend toward the elimination of finals in many classes has resulted in an awesome concentration of "last tests of the term" and "pseudo finals." Combined with the usual crush from term papers and finishing experiments, the test load gives a new meaning to the old term "Hell Week" (formerly when freshmen frat members were hazed preceding their initiation).

The main difficulty is that these last quizzes are not controlled. Finals are carefully scheduled so that no student should have more than two examinations on one day. Finals week is after the usual deadline for term papers and everything else, so students are free to concentrate on tooling (if they wish). However, these last quizzes are always scheduled for one of the last two classes and, as a result, a student may find him- or herself with as many as three of four major tests on one day.

In some cases, the test is counted as all others during the rest of the term, but too many instructors have come to consider it as a final exam and grade and weight it accordingly. If faculty want to give finals, they should give them during exam week. For the rest, the CEP should make some effort at scheduling, lest the students be overwhelmed.

Ford: once too often without a helmet

By Peter Peckarsky ©1974 by Peter Peckarsky

The speech was heralded far and wide as the new President's first step toward asserting some control over what the New York Times termed chaotic economic planning within the White House. Ford appeared to be in fine form, after his personal ordeal of the last two weeks, as he strode into the House chamber. He accepted two standing ovations, wore his new WIN (Whip Inflation Now) button and ... asked the country to masticate the marshmallow.

It was a reasonable dose of the oldtime religion without much chance of being accepted by the Congress either before or after the November elections. In short, a flop.

The main criticism of Ford's economic plans and proposed programs was contained in the speech itself. Ford said: "I have reviewed the past and the present efforts of our Federal Government to help the economy. They are simply not good enough, nor sufficiently broad. Nor do they pack the punch that will turn America's economy on." Truer words were never spoken about the President's new economic plan.

At a time of serious domestic and international economic problems, when the effects of the oil price increases are beginning to have a tremendous impact on America's balance of payments and capital markets, the President called for voluntarism.

This reporter has attempted to sample opinion across the country in this election year in an admittedly non-scientific manner. At a Congressional candidate's coffee hour in a Midwestern suburb, I found the same sentiment the President expressed Tuesday afternoon: "Our constituents want leadership." The people I spoke with wanted someone to provide a firm and sure hand on the ship of state's tiller. These voters were looking for someone to fill the leadership vacuum which has existed ever since the Watergate break-in. Yet Ford, in failing to provide plans for coping with the immediate crisis, has left us rudderless in a strong gale and rapidly approaching the shallows,

On Tuesday, President Ford proposed over thirty steps which he alleged would aid the nation in its struggle to whip inflation now and cure various other economic problems. Unfortunately, the vast majority of the proposals will have an effect, if any, only over the long term. Perhaps the only immediately effective plans (i.e. between now and July 4, 1976. the nation's two hundredth anniversary) are the tax surcharge, restriction of the Federal Fiscal Year 1975 budget to \$300 billion, and removal of remaining acreage limitations on rice, peanuts, and cotton.-

The various boards the President intends to establish will only proliferate the government bureaucracy; antitrust actions to break domestic cartels require years of litigation; easing Clean Air Act provisions and strip mining environmental safeguards will probably do more to gut the environment and further foul the only nest we have than to reduce the inflation rate.

Another informative Ford observation was the following: "I am aware that any proposal for new taxes, just four weeks before a national election, is, to put it midly, considered politically unwise. And I'm frank to say that I have been earnestly advised to wait and talk about taxes any time after November 5. But I do say in sincerity that I will not play politics with America's future."

Whenever a politician avers that he is not playing politics, one can be sure that he is doing exactly that. It appears that Ford proposed an unrealistic tax surcharge precisely because he wanted to be able to pin the blame for inflation on the Democratic donkey and thus avert what is shaping up as the worst debacle for Republican Congressional candidates since 1964. The latest Gallup Poll indicates that unlike Ford, the voters at least wear their helmets when they play football. Gallup found Ford had suffered the sharpest decline in popularity of any President in the 35 years Gallup has been inquiring into voter approval of the President's performance - 71% approval in August and 50% approval in September after the Nixon pardon.

Ford has also been on the campaign trail castigating Democrats for attempting to cut-off military aid to Turkey. Those in favor of the aid suspension had the audacity to maintain that the President and Secretary of State Henry Kissinger should obey the United States law on this matter. The Foreign Assistance Act provides that whenever military aid provided by the US to an ally is used for other than self defense purposes (e.g. invading the independent island nation of Cyprus) the aid shall be immediately stopped. Since mid-August the State Department has claimed that the matter has been under study. Finally, the Congress acted last week to enforce US law and met with opposition from a supposedly law and order President. Coupled with his remarks on the legality of violating international law (e.g. subverting the Chilean government), it may not be too much to ask if Ford believes that respect for the law stops at the water's edge.

It is possible that Ford decided to make one appeal for voluntary action and hold stronger-plans in reserve for dealing with the economy. It is also possible that Lyndon Johnson was correct (Johnson once opined that Ford played football

once too often without wearing a helmet). If this observer were forced to guess, the guess would be that Gerald Ford is in water way over his head.

Letter Newspaper ethics

To the Editor:

With the recent demise of the Nixon Administration, an era of American politics has hopefully come to a close. Where there has been deceit there is now honesty; where there has been corruption and intrigue we now have openness and candor. We all hope that with time wounds will heal. There is hope for the future.

Clearly all Americans should share in the rebuilding of this country, which badly needs much positive, constructive input. If we're all in it together, shouldn't we all try to make a better place of it? Men only get to the moon by determined work. It is only positive criticism that builds anything; negativism always destroys.

So it has been sad to read in recent weeks the articles in student newspapers in which the MIT administration (because of the strike) and the Dean's office (because of housing problems) have been so viciously attacked. I find two reasons

1) Poison Pen Journalism of the Nixon Era, having lost its point of focus with the resignation of the President in September, now looks for a new target to attack. I find the same political phrases applied to Deans and Administrators that were once reserved for Mr. Nixon alone. Surely none of these people have committed crimes or abused the trust of their offices. My impression of them is that they are very friendly, hard-working people who are most helpful and concerned about student life. You have only to talk to a dean to see how nice they are. It's that simple.

2) Adolescent Journalism where the writer, still being an adolescent, finds it necessary to attack and discredit, if possible, all authority figures in the neighborhood, in an effort to build the writer's own ego. Many of the articles I have read' showed more to me the story of a child still rebelling against a parent than a mature adult calmly and carefully considering a situation and making comments. In one recent article on the strike I counted nine (perhaps sixteen) clear-cut slanders against the MIT administration and its members, all of which are material for a lawsuit. Other articles on the various Deans have also been slanderous. I don't read anything like it in Newsweek or Time. Responsible journalism does not seek to destroy people's public images. I think we have to call a spade a spade

Hope is one element I never see in newspapers these days. Is it that the world has lost hope? Admittedly it's an imperfect world with imperfect people. I fall far short myself. But there's still hope and the determination to make things better.

David Hoicka

The Tech regrets to announce the resignation of Steve Wallman '75 as Night Editor.

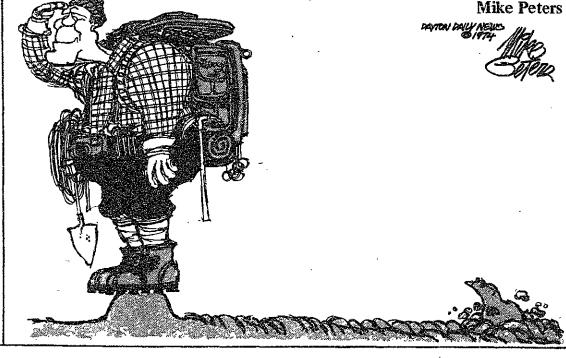
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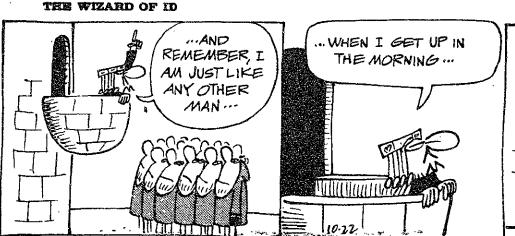
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October 22, 1974

Barb Moore '75; Chairperson Storm Kauffman '75; Editor-in-Chief John Hanzel '76; Managing Editor Norman Sandler '75; Executive Editor John Sallay '78; Business Manager

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I PUT MY LEOTARDS ON ONE LEG AT A TIME

by Brant parker and Johnny hart







Workers try to beat winter at dorm site

The new dorm going up on the far-West Campus is the result of three years of planning, thousands of man-hours of work, and an MIT investment of more than \$5 million.

The dorm plans date back to 1971, when the Committee on Student Environment (CSE) was instructed to begin a new study, released in the spring of 1973, replaced a 1963 CSE report which had provided the basis for planning of MacGregor House, and for the renovation of Burton House.

The CSE recommended that the "big house" concept — the idea of a house unit of 300 or more people — be rejected in favor of smaller house units of about fifty residents. By using these small house units, the committee said, students could find their own social group among a group larger than the average suite in the newer dorms, but smaller than the whole house.

The dorm is being constructed along those lines. A total of six units, each housing 50 residents, are planned along a long central hallway. Each three-story unit will center on a common area with a kitchen where residents will be able to cook. A connecting hallway with MacGregor will allow residents to take Commons and use the laundry facilities in that dorm.

Construction of the dorm began in June. and is scheduled for completion next September. Labor problems during the summer, however, have slowed the work, and MIT officials are not certain now that the dorm will be fully ready for occupancy in time for next's years incoming students:

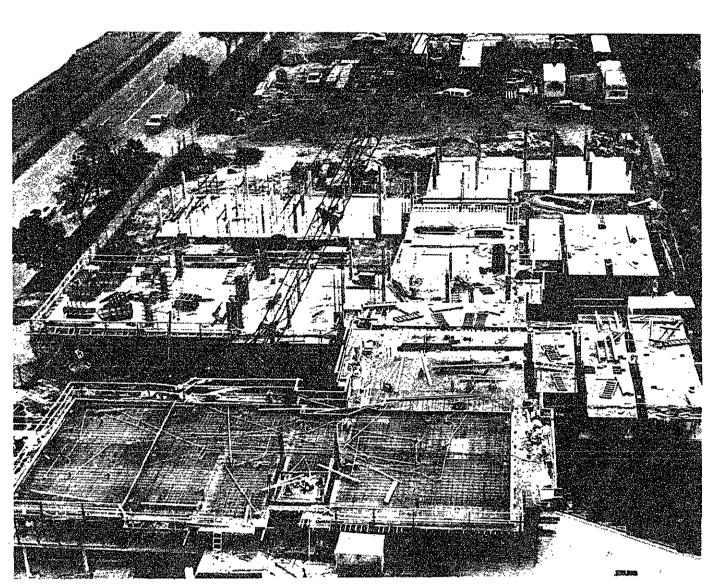
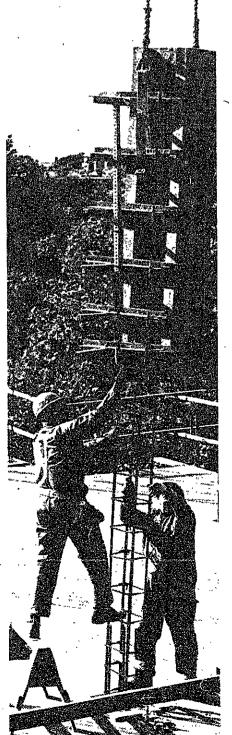
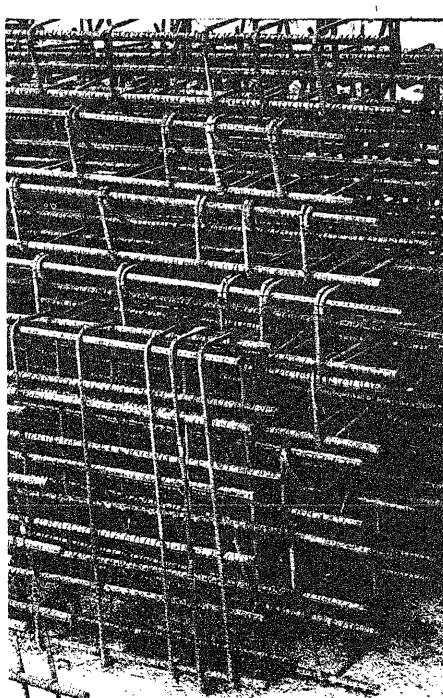
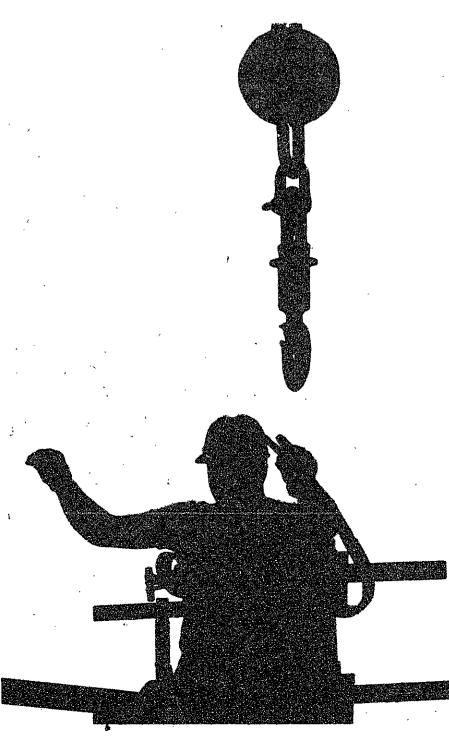


Photo credits, clockwise from top left: Mike Garcia, Rob Mitchell, David Schaller, Tom Klimowicz, David Schaller, Tom Klimowicz.







Anti-smoking program held

A five-day anti-smoking program is being held at MIT this week to help smokers "kick the habit" during their lunch hours.

The program, held here under the auspices of the MIT Medical Department, was developed by a physician and clergyman from Lancaster, Mass., and is conducted by a team of doctors from the New England Memorial Hospital in Stoneham, Mass.

Recycling program

To start, two large trash cans will soon be appearing in the corridor to buildings 12 and 24. PLEASE save all those old problem sets, mountains of accompanying scratch paper and your daily newspapers and put them to GOOD use. Just dump them. in by the ton - you'll save a tree each time that way. Anyone who could spare some time to help move us into phase two making dorm paper, can and bottle recycling possible - check out our MITEA meeting 7:30 Thurs. Oct. 24 in our office basement of Student Center, Don't worry this isn't just a bull session meeting - it's FUN work.

NOTES

- There will be a work session for MIT Ecology Action Thurs., Oct. 24 at 7:30. ALL HANDS, ARMS and FEET will be greatly appreciated. Work will be office recycling and urban bikeways publicity, so try and make your schedule include us.
- Root-Tilden Scholarship Program - New York University Law School: The Root-Tilden Program is designed to provide a unique educational opportunity for the student committed to the use of his professional talents in the service of the public. Complementing the normal law curriculum, the Program offers its members the opportunity to observe and support the work of lawyers committed to practice in the interest of the public. Candidates from MIT will be nominated for the Root-Tilden Scholarships. The deadline for the nominations is October 25. If you are interested in applying for the scholarship, make an appointment to see Susan Haigh Houpt, Preprofessional Advising and Education Office, 10-186, ext. 3-4158.
- Pre-Professional Office Notices contact the Pre-Professional Advising and Education Office, 10-186, x3-4158, for interviews. University of Pennsylvania School of Law - Dean Arnold Miller. Group meeting Tuesday, October 22 at 5:30pm in Room 3-133. Stanford Law School - Dea William Keogh. Group meeting Friday, October 25 at 12n in Room 4-145.

Columbia University School of Law - John F. Kullberg, Director of Admissions. Interviews Wednesday, October 23 from 9am to 12n and from 1:30pm to 3pm.

Forum on the Legal Profession: Financial and Corporate Parctice in a Large Law Firm. James M. Storey, Esq., Partner, Gaston, Snows, Motley & Holt. Thursday, October 24 at 4pm in the West Lounge, Student Center.

University of Pennsylvania School of Law - Dean Amold Miller. Group meeting - Tuesday, October 22 at 5:30pm, in Room 3-133.



The anti-smoking method, known as "The Five-Day Plan to Stop Smoking," has helped more than 2 million people quit smoking - 80 per cent of the people who take the program, according to its sponsors. It has been used by a number of New England businesses, including Polaroid and MITRE, and some high schools, to help employees and students quit smoking.

The program, open to all members of the MIT community and their families, is offered by the Medical Department as a service to the community, according to Dr. Warren Point, assistant Medical Director, who

called smoking "an extremely serious public health problem."

According to the program's sponsors, the smokers wanting to quit are given "a comprehensive, all-out plan of attack based on sound physical, psychological principles designed to strengthen the will and overcome the habit." The program is timed to the smokers' progress in quitting, so that the problems discussed in the sessions each day relate to the problems smokers usually face at that time when quitting.

Point said he strongly supported the clinics, and urged all smokers - including pipe and cigar smokers - to participate.

The insurance helpline: 876-0876.

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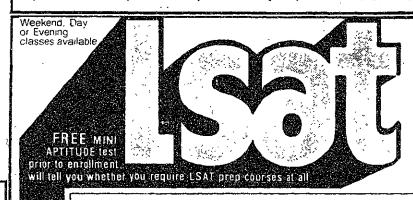
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182 Mass Ave., Cambridge

New energy study funded

By Jules Mollere

An international study of energy options available to industrialized countries will be sponsored by MIT and directed by Dr. Carroll Wilson, Mitsui Professor in Problems of Contemporary Technology at the Sloan School of Management.

According to Wilson, one area in which this workshop will concentrate is in developing methods of using energy more efficiently and in finding better ways of reducing waste. Each of these alternative methods will then be evaluated for its application to the various countries involved.

Another group will "begin to develop a global framework for integrating combined national supply and demand options" Factors which will be included in this framework are capital needs, import patterns, producing country expenditures and absorptive capacities and balance of payment effects.

Wilson considers such a workshop to have certain inherent advantages over any strictly intergovermental study. "Intergovernmental machinery rarely can afford a time horizon longer than that of governments - usually less than five years - and is not well designed for the conduct of assessments involving a mixture of political, social, economic and technical factors for a period 10-25 years into the future."

Wilson also said that he

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expects the intergovernmental machinery will be kept busy "with the probable continuing crises of supply and distribution of the next decade."

In his view, it is these advantages that make the Workshop "an experiment with a new mode of assessment for critical global problems." Wilson said that, should this "experiment.' succeed, its approach could be applied to other global problems such as food and materials.

The Workshop on Alternative Energy Strategies will involve scientists and businessmen from Canada, France, Iran, Japan, The Netherlands, Norway, Swden, United Kingdom, Denmark, West Germany, Italy, Mexico and the U.S. The participants include the President of Atlantic Richfield Co., Chairman Detroit Edison Co., Chairman Allied

Chemical Corp., and the Chairman, General Motors Corporation.

The first meeting of this workshop was held at the New Seabury Country Club on Cape Cod last week. Subsequent meetings will be held over a two year period in various parts of the world.

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Women win at volleyball

- "Hey, where are you going?" "To play volleyball."
- "Oh, you play IM's?"
- "No, intercollegiate."

"You mean there's a women's intercollegiate volleyball team?"

Yes, believe it or not, MIT does have a women's volleyball

Coached by two members of the MIT volleyball club, David Castanon, a graduate student in math, and his assistant Robert Cassels, also a grad student, the volleyball team is a new addition to the intercollegiate schedule at

MIT this year after an aborted attempt was made to organize the team last year.

MIT undergraduate and grad students, forming an 'A' team and a 'B' team: Karen Altman '78, Celia Barry '78, Mon-Yu Chiang '78, Sue Coppersmith '78, Nancy Everds '77, Kim Francis '78, Lisa Jablonski '77, Kyung-Sup Lee '78, Sheila Luster '78, Kathy Mensler '77, Alwin Okuna '75, Vonnie Perlstein '78, Kathy Roggenkamp '77, Judy Stein '78, Yvonne Walkowski '74, and Linda Yester

Thus far, three of the season's six matches have already been played, all resulting in victories for the 'A' squad. In the opening match, the MIT 'A' team took the first two games out of three The squad is composed of 16 to defeat Lowell State College,

while the 'B' team dropped its match.

Both the 'A' and 'B' teams had no trouble in defeating Gordon College at home on October 10 in the year's second outing.

Last Thursday, the MIT women were at home again, hosting Brandeis. After putting up a good fight, the 'B' team lost, but once again the 'A' team won with little difficulty.

Remaining are three road games for MIT: at Salem State on October 24 at Boston State on November 12, and at Mount Ida two days later. The team has also been invited to compete in the seasonal tournament on November 23.

drought Soccer victory ends

By Glenn Brownstein

It took them eight games (four of them heartbreaking 1-0 losses) to do it, but MIT's varsity soccer team finally won a game last Saturday, scoring three first-half goals and adding three more within a span of six minutes in the second half to demolish Lowell Tech, 6-1, at Briggs Field.

MIT opened the scoring at the 16:15 mark of the first half when Engineer captain Ray Marotta '75 pumped in a rebound of a Greg Hunter '76 shot. Lowell Tech, however, evened the score ten minutes later on a fifteen-yard goal by Bill George. Unlike MIT's 4-1 loss to Brandeis three days earlier, when the Engineers scored first only to collapse after Brandeis evened the score, Lowell's tally served to awaken the Engineers, who got a number of excellent shots on goal immediately afterwards and missed several other opportunities while keeping the ball in their offensive zone.

Lowell Tech finally succumbed to the pressure late in the half when Lampros Fatsis '77 put in a cross from Frieder Krups '77 to give the lead back to MIT. Then, two minutes before halftime, Marotta headed the ball to Fatsis, who fed the ball to Steve Rice '78, who sent a high, hooking twenty-five

yarder just over the goalie's reach into the upper left corner of the net for a 3-1 MIT halftime advantage.

Although unaccustomed to this sort of lead this season (The three first-half goals were one more than MIT had tallied in its first seven games combined), the Engineers never went into a defensive shell, but pressed their advantage further and broke the game wide open in the second half on three quick goals within five minutes and thirty seconds early in the period.

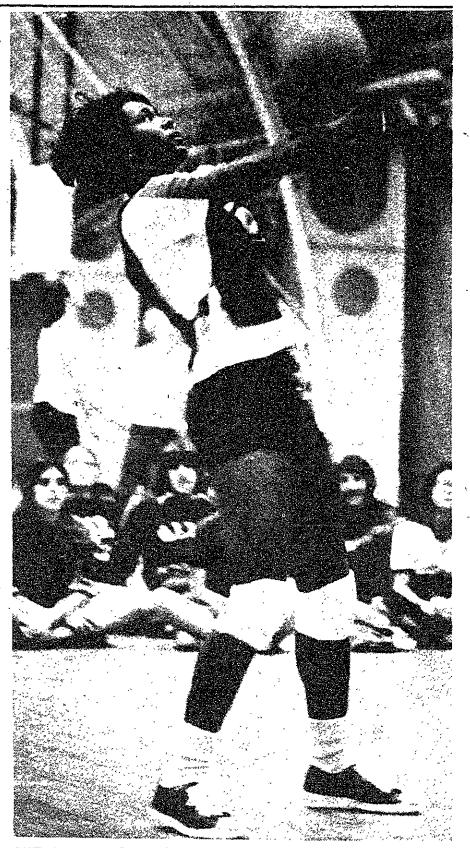
With twelve minutes gone, Marotta started the barrage with his second goal of the game, a low shot that went in just inside the right post.

Four minutes later, MIT's veteran striker Esref Unsal '75 scored his first goal in nearly two years by putting in a rebound of a Hunter shot that hit the crossbar and dropped directly in front of the goal, where the charging Unsal scored into a virtually open net.

Jan Krakauer '77 completed the Engineer scoring less than two minutes afterwards on a rather peculiar play. Fullback Dave Fett '77 unloaded a long downfield clear, hoping to get the ball to the Engineer forward line. The kick was too strong, though and it appeared that Lowell's goalie had a fairly easy save. However, he charged the ball a little too quickly and overran it, upon which Krakauer ran in and scored on a sharply angled right-to-left shot.

As a result of the lopsided score, the Engineer "splinter squad" of Nino Pedrelli '78, Gregg Fenton '77, Ed Shiang '78, Paul Culter '77, and reserve goalie Gray Safford '75 played the final twenty minutes, holding Lowell scoreless. Safford made a number of excellent saves and looked fairly experienced despite seeing almost no action all year.

MIT's JV soccer team evened its record at 2-2-1 this week with a 4-3 win over Tufts on Tuesday (Steve Tufti '78 put in a penalty kick five minutes from the end to win it.) and a 6-2 win over Emerson Saturday morning.



MIT freshman Sheila Luster is shown above bumping the ball to Brandeis in last Thursday's win by the women's 'A' team.

Photo by Ed McCabe

IM volleyball standings:

A1 league	WL
Baker 'A'	4 1
Hellenic Athletic	4 1
Bexley 'A'	3 2
Beam Balls	$\frac{1}{2}$
Economics 'A'	1 4
Lambda Chi Alpha 'A	
A2 league	WL
Math	4 1
Persians	4 1
Volleyball Club	4 1
Sloan 'A'	2 3
Phi Beta Epsilon	1 4
Theta Delta Chi 'A'	0 5
Bi league	
	WL
Baker 'B1'	4 0
Aero-Astro	3 1
Ashdown '1'	2 2 1 3
Baker 'B3'	1 3
Beta Theta Pi	1 3
Pi Lamda Phi 'B'	1 3
B2 league	WL
Alpha Tau Omega 'A'	3 1
Chi Phi T'	. 3 1
Alpha Epsilon Pi 'I'	3 1 2 1 2 2
Burton 'I'	2 2
Burton 3rd Bombers	1 2
Charcoal	0 4
B3 league	WL
Delta Tau Delta 'B'	3 1
Delta Upsilon	3 1
Mech. Engineering	3 1
Delta Psi	1 3
Economics 'C'	4 3
Baker 'B2'	1 3
B4 league	WL
Nuclear Do Brasil	3 0
Metallurgy	2 1
Theta Delta Chi 'B'	2 1 1 2
East Campus 3E 'B'	1 2
Phi Kappa Sigma	1 2 0 3
Meteorology	
B5 league	WL
Pi Lambda Phi 'A'	3 0
Senior House	3 0 2 1 2 1 1 2
Fast Breeders	2 1
Phi Mu Delta	
Zeta Beta Tau	0 3
B6 league	WL
Tang Hall	3 0 3 2
Economics 'B'	3 2 2 2
Sigma Phi Epsilon	2 2

Phi Gamma Delta

Sigma Alpha Epsilon

1 3

1 3

C1 league	W	L	C4 league	W	L
MacGregor H Turkeys 'A'	4	0	MacGregor C	5	
Conner 4	3	1	Burton 4 B	4	1
Epsilon Theta	2	2	East Campus 1E	3 2 2	2
Baker C3	2	3	Conner 5	2	3
East Campus 4W 'C1'	1	3	Delta Tau Delta 'C'	2	3
Tau Epsilon Phi	0	3	Lambda Chi Alpha 'C'	2	3
•			McCormick	0	5
			C5 league	W	
C2 league	W	L	MacGregor Turkeys 'B'	5	
East Campus 4W 'C2'	3	0	Theta Xi	4	
East Campus 2E 'A'	3	1	MacGregor A	3	2 2 3 3
Burton 2		2	East Campus 4E	2	3
East Campus 2E 'B'	2	2	Kappa Sigma	2	3
Alpha Epsilon Pi '2'	2	3	Burton 3rd Bombers	1	4
East Campus 3E 'C'	0	4	Senior House	î	4
			C6 league	W	
C3 league	W	L	Ashdown/Fr./Ger.		
East Campus 2W	4	0	G.R.A.S.	. ž	2
Club 21	3		NRSA		
MacGregor J	3	Ī	Phi Delta Theta	3 3	3
Burton H Tooey	2	2	Burton 4 'A'	2	3
Chi Phi '2'	0	4	Delta Kappa Epsilon	2	3 3 3
Pi Kappa Alpha	0	4	MacGregor D	2	3
			· · · · · · · · · · · · · · · · · · ·		_

By Dan Gantt Did you ever sit down and wonder what it would be like to

go to a real college? I mean, MIT tries its level best, and academically I suppose it bears some resemblance to those other schools. But really now, wouldn't life around here be much more tolerable if one could spend all those chilly Saturday afternoons in the fall cheering for the Cardinal and Gray in Tech Stadium?

And Shuiz

Well, for the longest of times, that has been my supposition; so, I figured that the only sensible thing to do was to make believe one Saturday afternoon that I was actually a (Shudder!) Harvie and make the trip up the Charles to find out for sure. Needless to say, I was not disappointed...

The game itself, Harvard vs. Cornell, was plenty exciting. After falling behind 21-10 at the half, the Crimson put on an impressive display in the third quarter, scoring four touchdowns, much to the approval of the 31,000 wildly cheering partisans, to pull out the win, 39-27. Rare indeed are the times I can remember a group of MIT students becoming very excited about anything.

More appealing than the game itself, though, was the atmosphere: sort of like a big carnival. The Cornell band marched through its intricate patterns, its mass of red uniforms brightly shining in the crisp autumn sun, while its Harvard counterpart did calisthenics in the end zone before the game (figures, doesn't it?) and put on a hilarious halftime show poking fun at Russia.

And of course, the alumni could be found everywhere, cheering in the stands, reminiscing with old friends, or picnicing in the parking lot on the tailgates of station wagons.

Oh well, what can you do? MIT will never again have a football team and probably never should. I'm just thankful that I'm not staying here for grad school.

IM soccer results: A league Aero/Senior House6. Earth & Planetary0 Math Hellenic Athletic Club 0 Baker 'B'0 Conner 'B'0 DTD1 PDT 0 LCA/DU 5 PBE Nuclear Engineering 1 Sigma Chi0 Economics0 SPE3 AEPi0 TDC0 PLP0 C leagues Bexley (forfeit)0 Burton 5 Smokers1 ATO MacGregor 'E'0 ZBT 0 East Campus1 Theta Xi 0 Russian House/Conner ...0 Kappa Sigma0 Burton 3rd Bombers 0 Baker 'C'0 PKS0 MacGregor 'H'0